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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,750	03/18/2004	Bryan C. Hendrix	ATMI-696	6889
25559	7590	03/12/2007	EXAMINER	
ATMI, INC.			STOUFFER, KELLY M	
7 COMMERCE DRIVE			ART UNIT	PAPER NUMBER
DANBURY, CT 06810			1762	
			MAIL DATE	DELIVERY MODE
			03/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

Advisory Action Before the Filing of an Appeal Brief	Application No. 10/803,750	Applicant(s) HENDRIX ET AL.	
	Examiner Kelly Stouffer	Art Unit 1762	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 26 February 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
(b) ☐ They raise the issue of new matter (see NOTE below);
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): _____.
6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
The status of the claim(s) is (or will be) as follows:
Claim(s) allowed: _____
Claim(s) objected to: _____
Claim(s) rejected: 1-8, 11-14, 16-23, 27-31, 37-41, 43, 45-78, 80-93 and 97-112.
Claim(s) withdrawn from consideration: _____.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See attached Detailed Action.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
13. ☐ Other: _____.

DETAILED ACTION***Response to Arguments***

Applicant's arguments filed 26 February 2007 have been fully considered but they are not persuasive. Regarding arguments drawn to the 35 USC 112 first paragraph rejections, the applicant argues that the limitation of a ruthenium metal thin film are supported by the broad teachings of the specification and are not limited to CVD under oxidizing conditions. Though the applicant includes support for making a ruthenium thin film, it is not shown by the specification, including the processing conditions in the specification and the original claims, that the inventors had possession of making a ruthenium metal thin film layer **with any co-reactant gas** at the time of the invention. The disclosure of a ruthenium layer is broad in scope and claiming possession of a broad genus of materials does not give one possession of all species in that genus, especially absent a specific working example in the disclosure showing that the applicants had possession of making a ruthenium metal layer using any co-reactant gas, as is claimed. Table 2 of the instant specification only shows the layer being made with **oxygen and hydrogen**. This is not commensurate in scope with the process conditions of claim 1, or other process conditions required by the claims (such as those in claim 3). Therefore, the 35 USC 112 first paragraph rejection of claims 1-8, 11-14, 16-23, 27-31, 37-41, 43, and 45-64 is maintained.

Regarding arguments drawn to the 35 USC 102 rejection under Jin et al. the applicant argues that Jin et al. neither teaches repeating its process to form a layer or using the same process conditions as the claims. As was stated in the previous Office

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Action and Advisory Action, Jin et al. includes repeating the process in column 4, lines 14-44. Jin et al. describes a process with an initial layer formation (column 4 line 21) and continuously repeats this deposition (column 4 lines 21-23) until the layer of desired thickness is formed (column 4 lines 42-44). This meets the recitations of claim 65 at least as broadly as they are recited. Process conditions for the process in Jin et al. are including in the examples. Therefore, this rejection is maintained.

Regarding arguments drawn to the 35 USC 103 rejection under Wade et al. in view of Shimamoto et al., the applicant argues that Wade teaches away from using a Ru seed layer and using CVD. Further, the applicant argues that Shimamoto does not teach CVD of a Ru metal seed layer and proper motivation does not exist to combine the two references. However, Wade teaches the limitations of the claims as was discussed in the previous Office Action, including forming an Ru film by CVD (column 4 line 59- column 5 line 13). The purpose of Wade is to use CVD to create such a Ru seed layer (see title). Wade also discloses depositing a Ru oxide seed layer (column 5 line 14-37). The examples and tables of Wade anticipate the process conditions given in the claims. **Shimamoto et al. is used to show that the ruthenium metal layer of Wade is useful as a seed layer.** The motivation is to use a ruthenium metal layer as a seed layer in order to control the oxygen content in the film – the entire film including the separate layers and their interaction with the substrate (column 4 lines 3-14 and columns 5 and 6 lines 66-17 of Shimamoto, also see figures). This does not suggest that the layers of Wade et al. are deficient in any manner, but that Shimamoto teaches that the layers of Wade et al. may be used to make a seed layer so that the entire film of

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a device has controlled oxygen content. One of ordinary skill in the art would be motivated to combine these references to use the layer of Wade as a seed layer when making a device such as that in Shimamoto. To be a *prima facie* case of obviousness, Shimamoto or Wade need not disclose all of the limitations of the claim separately, but in combination. In the previous office action, it was shown that Wade in view of Shimamoto includes the limitations of the claims and proper motivation was given to combine the references by the examiner. Therefore, these rejections are maintained.

The remainder of the applicant's arguments were drawn to arguments based on Wade in view of Shimamoto already discussed above. It is noted by the examiner that claims 1-8,11-14,16-23,27-31,37-41,43,45-78,80-93 and 97-112 are pending in the application. All rejections of the previous Office Action are maintained by the examiner.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Stouffer whose telephone number is (571) 272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kelly Stouffer
Examiner
Art Unit 1762

kms


TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER